

Water Recreation and School Programs

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www.kingcounty.gov/health

Plan Guide for Water Recreation Facilities - Pool 2010

I. General

- A. Submit at least two sets of plans with the attached *Pool Plan Review Application* and applicable fee to:

Water Recreation Program

401 – 5th Avenue, Suite 1100

Seattle, WA 98104

206.205.4048

- B. Plans must be approved prior to construction.
- C. Plans must be submitted by the design engineer or architect with their cover letter and must be stamped with their seal and signed. Plans must be drawn to scale in sufficient detail to illustrate construction.
- D. Pool design plans must include:
1. One vicinity sketch noting pool in relation to the surrounding area and facilities.
 2. Both plan and cross sectional views of the pool. Cross sectional views should provide information on the radius of curvature of the pool at shallow, breakpoint and deep ends of the pool.
 3. Detailed view of the equipment room and equipment within it noting sufficient room is provided to access equipment for proper operation and maintenance.
 4. Dimensional drawings of pool bottom and sidewalls.
 5. Specifications of required equipment components.
 6. Piping schematic showing piping, pipe size, inlets, main drains, overflow channel or skimmers, vacuum fittings and all other appurtenances connected to the pool piping system.
 7. Details of barrier construction, including gate latch height, fencing material, spacing between fencing members, self closing latch detail, etc.
 8. Details of decking dimensions noting slope, direction, and location of drains.
- E. A Pool Data Form must be filled out and submitted with the plans.
- F. Before opening for business, the following steps must be completed:
1. The construction report and pool data form must be completed and signed, and stamped by the pool design architect or engineer. These forms indicate that the pool has been constructed according to WAC 246-260, and the approved design.
 2. Occupancy and all other permits must be signed off before the opening inspection.
 3. An operating permit from Public Health – Seattle & King County must be applied for and obtained.
 4. A pre-opening inspection by Public Health – Seattle & King County Staff must be arranged and completed.

II. Complete the Pool Plan Review Application Form-Available on line at

<http://www.kingcounty.gov/healthservices/health/ehs/pools.aspx>.

III. Pool Information - All the following applicable information outlined below must be included on plans and/or specifications. Omissions may result in the rejection of the plans and delays in plan review. This is a guideline to the basic requirements of a pool facility. Actual requirements are details in the Water Recreation Facility Regulations, Chapter 246-260 WAC Specific Design Characteristics. Specific swimming pool design characteristics:

Pool Shape:

- A. Pool Shape: Rectangular____ Oval____ Kidney____ Other____
- B. Pool Dimensions: Length____ Width____ Pool Depth Range: Shallow____ Deep____
- C. Total surface area of pool _____ft² (Area <5 ft deep _____; Area >5 feet deep _____ft²)
- D. Pool capacity _____ gallons.

- E. Bather Load _____ people at one time.
- F. Pool location is _____ feet from any pump house, trees or other climbable structures. If structures are within 15 feet, list and describe what they are.
- G. Pool surface construction material: Painted Concrete __; Plaster __; Fiberglass __; Tile __; Painted Metal __; Other__ - Please specify _____; Pool color is _____.
- H. Handholds-specify location and types on plans.
- I. Ladders and steps.
 - 1. Note location, contrasting color, and riser height, tread depth and surface area, and non-slip finish on the plans.

Pool Decking

- J. Pool decking construction material: _____; Type of non-slip finish provided: _____
- K. Pool Deck slope rate _____/ft for drainage (Min ¼ in./ft, Max ½ in./ft.).
- L. Square feet of deck provided _____(for pools > or = 1500 square feet).

Diving and Slides

- M. Are there diving boards ____, platforms ____, starting blocks ____, or water slides _____?
- N. Must meet APHA standards (12" or less), CNCA standards (<20 inches/1/2 meter), or FINA standards (>or = to 20 inches or ½ meter).

Equipment Room

- O. Show on drawing minimum three foot working area.
- P. Show any drains, lighting, ventilation, and access limitations.

Ventilation for Indoor Pools

- Q. Specify how pool ventilation is in conformance with ASHRAE standards.

Restroom, Locker Rooms & Plumbing

- R. Note location and size of locker room facilities.
- S. Note location and number of plumbing fixtures.
- T. Note location of drains within facility.
- U. Note drinking fountains (when required).
- V. Note floor finish.
- W. Distance _____ to the pool from the living unit, which is located the farthest from the pool (if applicable).
- X. #_____ of stories in building.

Lighting

- Y. Specify minimum lighting (30 foot-candles) around pool and deck for indoor facilities, and outdoor facilities used after dusk (15 foot-candles).
- Z. Specify minimum lighting for locker rooms (20 foot-candles) and equipment room (20 foot-candles). Describe protective shielding on lights in locker room and walkway areas.
- AA. Document emergency lighting on indoor pool facilities.

Food Service

- BB. Must be in compliance with requirements.

Barrier Protection

- CC. Note minimum barrier height on plans.
- DD. Describe barrier construction to include maximum openings and distance between horizontal surfaces.
- EE. Note height to access latches on gates and doorways, and as appropriate continuous locked locks.
- FF. Note gate or door designed to be self-closing, self-latching.
- GG. Note gates or doors lockable for periods of non-use.
- HH. Describe windows opening to pool area, and how barrier requirements are to be met.
 - II. Describe any gate or exit which serves as a barrier to the pool but also has fire department or ADA requirements. Describe your method of meeting all the appropriate building, ADA and water recreation codes.

Pool Floor Slopes

- JJ. Describe pool floor slopes from the shallow depth to 51/2 feet.
- KK. At transition points changing from shallow to deep depths where uniform slopes are not maintained, provide information on the slope change in this transition zone.
- LL. Radius of floor to wall curvatures at the shallow end _____, breakpoint _____, and deep end _____.
- MM. Depth Markings.
 - 1. Specify on plans.
 - 2. Safety (float) lines or marking lines; specify on plans.

Recirculation System

- NN. Name of public water system which is the source water for pool
 - 1. Specify the location where make-up water is introduced into the swimming pool and how it is protected from backflow.
- OO. Minimum flow needed to maintain 6 hour turnover is _____ gpm.
- PP. Provide appropriate calculations and assumptions to determine pump rates:
 - 1. Pump capacity produces _____ gpm with clean filter.
 - 2. Pump capacity produces _____ gpm with filter dirty (just prior to backwash).
 - 3. Is pump above _____ or below _____ pool water level? Specify the feet _____.
 - 4. If liquid chlorine pump is above the pool water level, is backflow protection specified? ___ Yes ___ No
 - 5. Provide pump curves for the pump(s) in pool system.
- QQ. Line size of recirculation system, inlets, and outlets must be provided on the plans, with locations of all valves to provide for proper maintenance and use of equipment.
 - 1. Number of inlets _____. Flow capacity designed for each inlet is _____ gpm.
 - 2. Number of outlets _____. The maximum pipe flow through suction or valved discharge lines is _____ fps (6 fps maximum). Discharge downstream from any valved areas is _____ fps (10fps maximum).
- RR. Main Drains.
 - 1. A minimum of two main drains with a minimum spacing of 6 feet must be specified on the plans.
 - 2. The open area on each main drain is _____ inches².
 - 3. The maximum width of opening on main drains is _____ inches (maximum of 1/2 inch).
 - 4. The maximum velocity through main drains assuming 100% of maximum pump flow is going through the drains, _____ fps (maximum 1.5 fps).
 - 5. Specify net outlet area, must be at least 4 times the area of the discharge pipe at main drain.
- SS. Overflow System.
 - 1. Type (gutter, skimmer, etc).
 - a. Gutter – show slope and dimensions.
 - b. Skimmer(s) – show weir length.

Treatment System

- UU. Pump & Strainer.
 - 1. Specify location of pump strainer on plans.
 - 2. Specify any valving needed to isolate strainer for routine maintenance.
 - 3. If pump is above pool water level, specify the self-priming capability.
- VV. Filter.
 - 1. Type: DE _____, Sand _____, Cartridge _____, Other (specify) _____. Must be NSF approved.
 - 2. Number of filters used is _____.
 - 3. Number of square feet per filter is _____ sq. ft.
 - 4. Minimum application rate with filter dirty is _____ g/sf.
 - 5. Maximum filter application rate with filter clean is _____ g/sf.
 - 6. Air Relief.
 - a. Must note on plans.
 - b. When using a separation tank with a DE filter, instruction must be provided to warn operator to release air prior to opening.
 - 7. Gauges.
 - a. Must be noted on the plans.
 - b. Two gauges must be provided to measure differential pressure across the filter.
 - 8. Flowmeter.
 - a. Note location on plans.
 - b. Note range of flowmeter.

WW. Disinfection.

1. Type: Chlorine ____; Bromine ____; Other (specify) _____.
2. Type of material used: Gas ____; Liquid ____; Solid ____.
3. Note type of feeding equipment to be installed. Must be NSF approved for liquid or solid feeders.
4. Maximum number of pounds of disinfectant feeding system can add per day is ____ pounds/day.
5. Gas Chlorine.
 - a. Note prevailing wind direction in relation to the pool facility, include air intake structures for the buildings and surrounding area.
 - b. Gas Chlorine storage – Specify separate sealed room, door opening must open to out-of-doors, provide sign on door.
 - c. Ventilation – Must have mechanical exhaust at one air change per minute, with remote or door activated switch to turn on fan; must have means to exhaust from floor of room; must have means for make-up air to room across breathing zone of operator; must have screened chlorinator vent.
 - d. Note type of breathing protection.
 - e. Must have vacuum injection chlorine systems, with vacuum-actuated cylinder regulators, integral backflow and antisiphon protection at the injector.
 - f. Must have taring scales, means for automatic shutoff when pool flow is interrupted, means to store cylinders securely, valve-stem cylinder wrench on cylinders.
 - g. The Size cylinders used are _____ pounds.
6. Chemical feeders for pH control.
 - a. Required on pools 50,000 gals or more.
 - b. Required if feeding caustic soda or CO₂.
 - c. Attach specification on the feeding equipment.

XX. Heaters – Gas.

1. Pilot light must be readily accessible.
2. Specify installation in accordance with NEC and UMC.

YY. Chemical Storage.

1. Provide information on placement of chemicals.
2. Must be in conjunction with manufacturer's recommendations.

ZZ. Testing Equipment.

1. Provide information on type of equipment provided for testing pool water chemistry.

Safety – Signage and Equipment

AAA. Note on the plan the following equipment including:

1. Phone or other emergency medical service response means.
2. First aid kit.
3. Two blankets.
4. Life hook.
5. Throwing buoy, heaving jug or lime.
6. Signs (Note: provisions for signage in conformance with regulation. Provide copy of proposed language.)
7. Foot baths are prohibited.
8. Backboard (where required).
9. Rescue tube or buoy (where required).
10. Lifeguard chairs (where required).